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# Resignation Calls, Reallocations and Individual Ministerial Terminations in Latin America

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# Table of Contents

1. Introduction
2. Theory and Empirical Expectations
3. Empirical Strategy
4. Results
5. Discussion



Artwork by DALL·E, inspired by Matisse

# Introduction

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# Introduction

Our research question is: **How do resignation calls affect cabinet reallocations and dismissals of ministers in Latin American presidential democracies?**

We use a combination of a presidential **protection policy** and a **dismissal rule**: The president protects ministers subjected to a first questioning but, because they are then contaminated, the probability of ministerial termination increases as from a second call for their resignation.

- Archival review of press reports in 12 LA countries (1976-2021), compiling a dataset on ministerial turnover and resignation calls.
- Data mining (OCR) and machine learning and then a semiparametric approach of competing risks and PS matching.

## Theory and Empirical Expectations

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## Protection Policy and Dismissal Rule

To limit agency problems, the president could apply a combination of protection policy and a dismissal rule, borrowed from the rules modelled for parliamentary systems by Dewan and Myatt (2007, 2010; see also Berlinski et al., 2010).

The protection policy considers that ministers can be: (1) **tainted** by having been affected by a scandal or (2) have a record **clean of questioning**.

- If a tainted minister is again affected by a scandal, dismissal should be highly probable (limiting moral hazard).
- A minister with a clean record should be protected by the principal to encourage political activism (limiting agency loss).

## Protection Policy Expectation

The first resignation call should serve as a warning for the minister to improve their performance rather than as an immediate threat to their position. This protection policy should have two outcomes: the retention of the questioned ministers or their reallocation to a different portfolio.

Thus, our first hypothesis is:

- **Protection Policy Hypothesis.** The first call for a minister's resignation raises the probability of reallocation, but not of individual terminations.

## **Dismissal Rule Expectation**

If ministers whose resignation has already been called for are involved in a new scandal, the president could activate the dismissal rule.

The dismissal of a tainted minister could operate as a positive signal in the chain of delegation between voters and the president ([Dewan and Dowding, 2005](#)). In addition, dismissing tainted ministers could be a way to limit moral hazard by demonstrating that officeholders' actions are not insulated from negative consequences. Accordingly, our empirical expectation is:

- **Dismissal Rule Hypothesis.** The second and subsequent calls for a minister's resignation raise the probability of individual terminations, but not of reallocations.

# Presidential Settings

Considering the literature on cabinet reshuffles and a number of institutional features of presidential systems, we focus on tainted ministers and test the dismissal rule under specific conditions (**moderation analysis**):

- Presidential Re-Election
- Presidential Leverage
- Fragmented Opposition
- Government Performance

## Empirical Strategy

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## Cases and Data Gathering

We combined the Tesseract Optical Character Recognition (**OCR**; see [Ooms, 2021](#)) with different **semisupervised machine learning models** to distinguish between resignation calls and other mentions of cabinet members in the press. This was applied to **46 years** of **Latin American Weekly Report (LAWR) archives**.



# Tesseract Optical Character Recognition

The logo features the words "Latin American weekly report" in a bold, sans-serif font. The word "Latin" is in a smaller box above "American". The background is a black and white photograph of a newspaper masthead with the word "PENNSYLVANIA" and other text like "THE DAILY NEWS", "GROWTH IN EXHIBITION", and "ST. VITUS BAPTIST CHURCH".

### **How Domingo Cavallo rose to become Menem's virtual prime minister**

Argentina are still hotly debating what lay behind the sudden resignation of President Fernando de la Rúa, and the replacement by Ernesto González and his replacement by Domingo Cavallo (UPI 81-91). The simple explanation—the dollarization of the economy—was dismissed as the suffused with inflation, and much has been published about all sorts of political machinations.

One thing seems certain: that González was forced to resign at the instigation of Menem—and according to sources with access to him, that he knew President Carlos Menem had decided to do so. However, a widely accepted version is that Menem had always intended to remove González, and that he used the crisis to provide over the period of “activation” which he expected would give him time to do so.

In this scenario, González did what he chose to do his own way, and Menem, who had already prepared his replacement, proceeded to act as if nothing had happened and to assume the presidency himself. He was welcomed home to Buenos Aires and given a hero's welcome as he arrived in the capital.

It goes without saying that Menem's re-election was a resounding success. Carmona, however, was not as successful. He had not bargained well with the adverse popular tide. The former president, who had been one of the leaders of the dirty war, was accused of corruption in the higher government, and the thesis that, despite his record, he could not count on universal support from the South American public.

At this point, the scenario  
is Cavallo bolstered  
and ready to hang on. As a  
general rule he has emerged, not  
as a new economy minister,  
but as a new economic  
prime minister —  
organize the state-out of  
political posts and even to  
own people in other  
Cavallo, it is said, has  
been Senator Eduardo  
President's brother, as  
one of his most trusted advi-

Cavallo pushed to push for  
reform with the men oppo-  
Paul Alfonsin's Union  
Christian (UCR), on some  
condition that would ensure  
the stability of the government.  
He argued that many promi-  
nent politicians and business-  
men, 35 diplomats, have been  
elected since late 1980. ■

Argentines are still hotly divided as to what lay behind the sudden resignation of economy minister Ernesto González, and his replacement by Domingo Cavallo (see p. 68). The unemployment, unsatisfactory dollar rate, is dismissed as irrelevant, and much has been published about all sorts of plots.

Another strand of interpretation holds that the change took place when Menem suddenly lost his confidence, shaken by a series of events he had not bargained for. The depth of adverse popular reaction to the economic policies of the military leaders of the scandal-ridden corruption in the reaches of the government, as well as realization that, despite his failures, he could not count on sufficient political support from the administration.

This is at a time when even highly placed members of his government as Vice-President do Duhau were seen as just the mouthpiece of the military leadership, deriving its authority from the presidency for weeks speculate has been re about which more constitutional procedures would find most favor.

It was at this point, the scenario goes, that Cavallito bolstered Menem's resolve to hang on. Since then, Cavallito has emerged only as the new economy minister, but as a virtual prime minister in all but name. He has been given key ministerial posts and even appointed his own people in *ad interim* capacities. Cavallito, it is said, even won Senator Eduardo Menem, the President's brother, over to his cause. Carlos Menem's most trusted

Argentina are still what lay behind the nation of economy in Ernesto González byment by Domingo Cavallo. The model of a market-oriented dollar rate is, in short, reason and sense, and was published about all at once.

One thing seems González had seen him in the book of Menem, according to sources he, that he knew Pinochet would one indeed, a widely accepted that Menem had always appeared to him as a way to provide economic "moderation" which would follow a first "inflation". In this scenario did was to choose his

Another strand of the story is that the change to Menem suddenly gained confidence, shaken by events he had not been aware of. The depth of awareness of the situation was shown by the military leaders of the 1976 coup, who were widespread proponents of the government's realisation that, despite its faults, he could not be replaced by a civilian administration.

This is at a time when highly placed members of the armed forces, as Vice-President du Duhau was seen to be, were still supporting Menem's departure from power for weeks after many constitutional procedures would have

The scenario bolstered by the press is that the government has been weakened by the minister's resignation. The president of the Senate, however, said even to his own party, as he has said, has been Eduardo Frei's brother, as well as his most trusted adviser.

INSIDE	
PERU: Insults spread of cluster bombs, (R)	
EQUADOR: Holiday distances impact on oil workers, (R)	
COLUMBIA: Prospects of oil strike, ahead, with CNCS, (R)	
VENEZUELA: Lower prices force budget rethink, (R)	
BOLIVIA: A Soviet partner for oil exploration, (R)	
PARAGUAY: Pleasing invite on trade, (R)	
URUGUAY: What next for the 'Golf' affair, Trends, (S / T)	
PERU: Friends for Pima Callao R, (S / T)	
CHILE: Proposes to expand mining's mandate, (R)	
HAITI: Aristide faces first major challenge, (R)	
PALESTINE: Reaching a new case in court, (R)	
PANAMA: Time to recall Neighbors officer, (T, (R))	

INSIDE	
VENUE: What's ahead of other economic events.	Lower prices force budget re-think.
GUARDIAN: Holiday impacts on market.	A Soviet arrival in the U.S.
COLUMNA: Prospects of oil, abroad, with CNOIL	PANAMA: Placing limits on oil imports.
	SRI LANKA: Free trade in Pemra Cellar, (S), (T)
	CHECH: Proposal to extend Anastas' mandate, (S)
	HAWAII: Arctic lease first; new challenges; (T)
	PERU: Gulf affair; Trends, (S-T)
	SRI LANKA: Free trade in Pemra Cellar, (S), (T)
	EL SALVADOR: Outback SLM/Telcos' secret; (S), (T)
	PAKISTAN: Oil imports growing; case just in, (T)
	PANAMA: The recall Panama officers, T, (T)

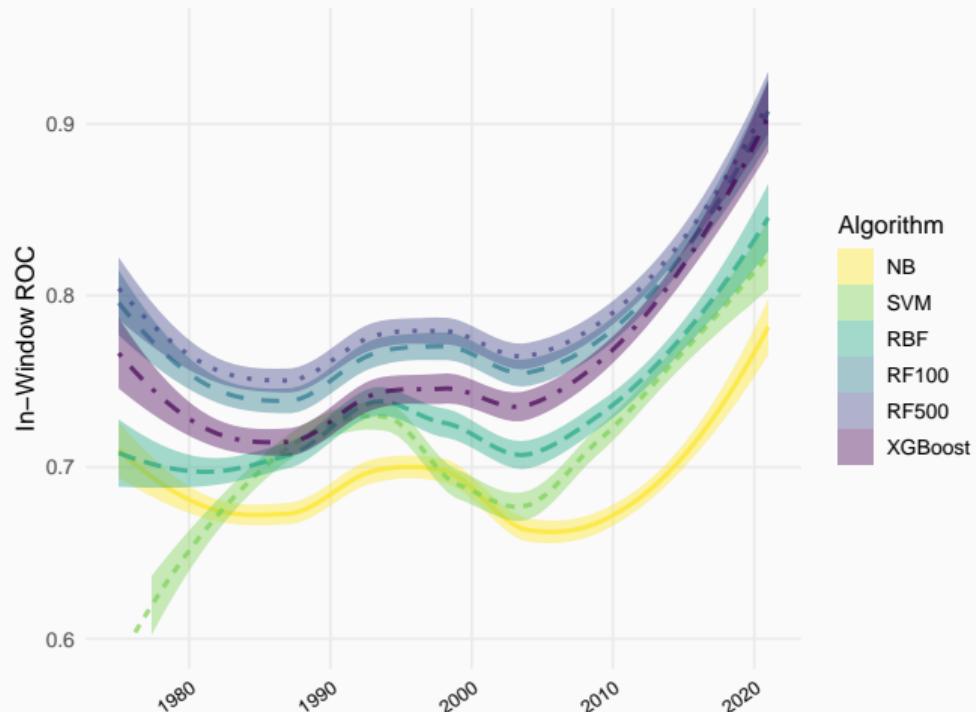
INSIDE	
P.R.: Widespread of cases epidemic; trends downward.	VENEZUELA: Lower prices from budget re-think.
ROUBINI: Holders of bonds face impacts on their portfolios.	BOLIVIA: A Soviet partner has withdrawn from PARADAY. Pending limits on democracy.
CLOVIS: Prospects of a deal, with CHILES	PERU: Free funds for Plans Callao II, III.
	CHILE: Proposed to expand Amanca mandate, (s).
	PAINT: Aristotle likes Stat. but faces challenges.
	PHILIPPINES: Time to recall Nalings officers, (T).

## Tab-Stop Lines — Column Layout — Segmented Blocks

# Goodness-of-Prediction of Semisupervised Models (1975-2021)

Following Greene et al. (2019), we trained semisupervised models using a **five-year fixed rolling window** from 1975 to 2021 to train algorithms and predict resignation calls.

Random Forest classifiers with 500 trees 10-fold cross-validated.



## Time-Dependent Data Encoding

The dataset was **time-dependent encoded** using monthly intervals with the (start, stop] model (Therneau et al., 2020). This allowed us to incorporate **time-varying covariates**.

We observe the time events  $T$  considering monthly intervals and  $k$ -th **competing risks**  $Y_{k[i]}$  for **reallocations** ( $k = 1$ ) and **individual ministerial terminations** ( $k = 2$ ) by constructing the monthly intervals  $Z(t) = I(t > Y_{k[i]})$ .

We then used the closed interval of  $i$ -th observations (officeholders) as an endpoint in a function for multi-state survival variables obtaining an outcome dataset to control competing risks with **Fine-Gray weights** (Fine and Gray, 1999; Therneau et al., 2022).

## Propensity Score and NNM

We distinguish  $D_{j[i]}$  as **1st resignation call** ( $j = 1$ ) and the **2nd or subsequent ones** ( $j = 2$ ). Consequently, we regress  $D_{j[i]}$  on a vector of covariates and potential confounders  $X_{m[i]}$  that considers quadratic presidential term patterns dummies and type of ministry, using probit models.

We also incorporated country FE and Fine-Gray weights  $w_1$ . This is our **naive propensity score estimation**:

$$D_{j[i]} = \varphi \left[ \alpha + \sum_{m=1}^M \gamma_m w_{1[i]} X_{m[i]} + \zeta w_{1[i]} \text{country}_i + \varepsilon_i \right] \quad (1)$$

## Propensity Score and NNM

Then, we expanded our PS estimation by incorporating **additional confounders** to  $X_{m[i]}$  to **block the backdoor path**. We favour the incorporation of covariates that can affect the presidential decision (protect/dismiss), as well as calls:

- Presidential leverage (control of the relevant Houses)
- Opposition fragmentation\*
- Government fragmentation\*
- Government type (single-party vs. coalition)
- Presidential re-election
- Cumulative level of resignation calls\*\*

\* probability that two randomly selected deputies belong to different parties.

\*\* to improve precision since it could be a competing exposure rather than a confounder.

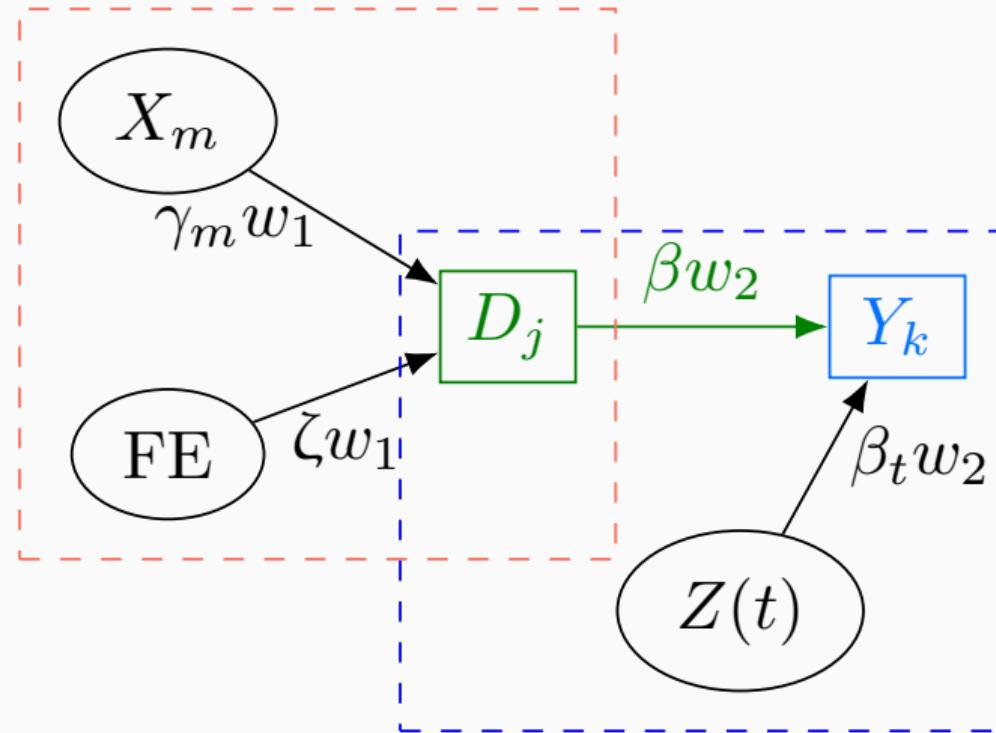
## Competing Risks Models

After matching, the outcome analyses were carried out in the different matched samples with Fine-Gray subdistribution hazard models to estimate the **ATT for observational studies**, that is, the effect on ministers who received resignation calls.

The models regressed  $Y_{k[i]}$ , where  $k = 1$  for **reallocations** and  $k = 2$  for **dismissals**, on resignation calls indicators  $D_{j[i]}$ , using PS weights  $w_2$  and  $Z(t)$  intervals:

$$\lambda_k(t_i) = \lambda_{0[k]}(t_i) \exp [ \beta_t w_{2[i]} Z_i(t) + \beta w_{2[i]} D_{j[i]} + \varepsilon_i ] \quad (2)$$

# Nonparametric Graphical Representation



## Results

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# Estimating the Protection Policy

	Reallocations		Ind. Terminations	
	Model I	Model II	Model III	Model IV
First Resignation Call	2.066* (1.059)	3.567*** (1.071)	1.029*** (0.268)	1.068*** (0.366)
Matching	NNM	NNM	NNM	NNM
Estimand	ATT	ATT	ATT	ATT
Competing Risk	Ind. Term.	Ind. Term.	Realloc.	Realloc.
PS Weights	Fine-Gray	Fine-Gray	Fine-Gray	Fine-Gray
Weights Outcome	No	PS	No	PS
Control of Houses	No	PS	No	PS
Opp. Fragmentation	No	PS	No	PS
Gov. Fragmentation	No	PS	No	PS
Type of Government	No	PS	No	PS
Re-Election Permitted	No	PS	No	PS
Cumulative Gov. Calls	No	PS	No	PS
Quadratic Term Patterns	PS	PS	PS	PS
Type of Ministry	PS	PS	PS	PS
Country FE	PS	PS	PS	PS
Obs. Clustering	PS/Yes	PS/Yes	PS/Yes	PS/Yes
Log-Rank	5.353**	5.756**	15.379***	12.270***
AIC	143.040	125.661	1,116.336	1,003.857
C-Index	0.683	0.711	0.605	0.606
N	14,418	14,367	10,737	8,455
Log Likelihood	-70.520	-61.831	-557.168	-500.928

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

We reject the **Protection Policy Hypothesis** as there is no evidence to suggest that the first call alone increases the probability of a minister being repositioned.

Although we reject this hypothesis, we found (novel empirical) evidence that reallocations and individual terminations are competing risks at the early stage of public questioning.

# Estimating the Dismissal Rule

Model IV with the block of confounders has an estimated ATT of 2.258. This implies the risk of a minister's removal increases more than nine-fold.

These results confirm the **Dismissal Rule Hypothesis**.

	Reallocations		Ind. Terminations	
	Model I	Model II	Model III	Model IV
Second or Subsequent Resignation Calls	1.005 (0.613)	-1.117 (1.043)	1.390*** (0.250)	2.258*** (0.249)
Matching	NNM	NNM	NNM	NNM
Estimand	ATT	ATT	ATT	ATT
Competing Risk	Ind. Term.	Ind. Term.	Realloc.	Realloc.
PS Weights	Fine-Gray	Fine-Gray	Fine-Gray	Fine-Gray
Weights Outcome	No	PS	No	PS
Control of Houses	No	PS	No	PS
Opp. Fragmentation	No	PS	No	PS
Gov. Fragmentation	No	PS	No	PS
Type of Government	No	PS	No	PS
Re-Election Permitted	No	PS	No	PS
Cumulative Gov. Calls	No	PS	No	PS
Quadratic Term Patterns	PS	PS	PS	PS
Type of Ministry	PS	PS	PS	PS
Country FE	PS	PS	PS	PS
Obs. Clustering	PS/Yes	PS/Yes	PS/Yes	PS/Yes
Log-Rank	2.978*	17.026***	35.838***	54.015***
AIC	573.545	897.601	4,488.856	4,282.437
C-Index	0.562	0.609	0.577	0.602
N	40,846	41,766	27,504	27,852
Log Likelihood	-285.773	-447.801	-2,243.428	-2,140.218

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

# Moderation Analysis in Presidential Settings

	Ind. Terminations			
	Model I	Model II	Model III	Model IV
Second or Subsequent Resignation Calls	2.105*** (0.232)	2.058*** (0.278)	-0.461 (0.842)	2.034*** (0.221)
Matching Estimand	NNM ATT	NNM ATT	NNM ATT	NNM ATT
Competing Risk	Realloc.	Realloc.	Realloc.	Realloc.
PS Weights	Fine-Gray	Fine-Gray	Fine-Gray	Fine-Gray
Weights Outcome	PS	PS	PS	PS
Control of Houses	PS	MOD	PS	PS
Opp. Fragmentation	PS	PS	MOD	PS
Gov. Fragmentation	PS	PS	PS	PS
Type of Government	PS	PS	PS	PS
Re-Election Permitted	MOD	PS	PS	PS
Cumulative Gov. Calls	PS	PS	PS	MOD
Quadratic Term Patterns	PS	PS	PS	PS
Type of Ministry	PS	PS	PS	PS
Country FE	PS	PS	PS	PS
Obs. Clustering	PS/Yes	PS/Yes	PS/Yes	PS/Yes
Log-Rank	61.130***	48.611***	17.929***	58.749***
AIC	4,347.741	4,308.576	6,671.682	4,359.918
C-Index	0.612	0.597	0.575	0.610
N	28,432	27,867	28,398	28,432
Log Likelihood	-2,172.870	-2,153.288	-3,334.841	-2,178.959

\*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

When performing a moderation analysis incorporating **opposition fragmentation** the effect is not significant ( $p = 0.584$ ).

This suggests that the government may be more resilient to opposition pressure when this is highly fragmented and does not have a cohesive strategy.

## Robustness Checks

Our robustness checks using **additional confounders**, an **alternative matching algorithm** (caliper) and a **special standard error estimator** (Austin and Cafri, 2020) show the same patterns as our main analyses.

When incorporating macroeconomic indicators, presidential approval and controlling for low levels of freedom of speech as potential confounders, the results were not altered (**low residual confounding**).

The exclusion of these **stochastic events** was made because we gave priority to the use of **resignation calls** as a noisy but empirically efficient indicator.

## Discussion

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## Discussion: Main Results

We reject our **Protection Policy Hypothesis**. This would imply that a substitution effect moderating the behaviour of risk-exposed ministers is not generated and, at the same time, individual ministerial performance is not incentivised.

The risk of removal increases more than ninefold as from the second call and we, therefore, accept our **Dismissal Rule Hypothesis**. Although this could limit moral hazard, this higher risk of removal, together with the absence of a consistent protection policy, could increase agency loss and undermine ministerial performance.

## Discussion: Moderation and Robustness Checks

We also found evidence of moderation under conditions of **fragmentation of the opposition**. Thus, when the opposition is highly fragmented and not cohesive, the effect of the second and subsequent calls for ministers' resignation on the probability of individual terminations is weaker.

Several concerns related to **residual confounding** were reviewed in the robustness checks by incorporating **macroeconomic and presidential approval indicators**. These were not included in the main analyses since it is argued that resignation calls are noisy indicators that operate as proxies for stochastic events affecting ministerial stability.

# Acknowledgements

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# Thank you very much!



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